Factors Affecting Debit Card and Credit Card use in India

Insights from the 77th All India Debt and Investment Survey

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The banking sector is introducing various financial innovations by providing various products and services to its customers. The access to debit card and credit card has increased, but their proper use is important. The current study aims is to explain the various factors affecting the use of debit card and credit card in India. The unit-level data from the 77th round of national sample survey has been accessed and analyzed and the result has been the use of multivariate logistic regression techniques and marginal effect analyses.

The study has found that the education level, the cards' major urban-place usage by regular wage and salaried individuals based on their source of income, the value of the financial assets and wealth quintile are in principle positively associated with their wide popularity, However, senior citizens and females are negatively associated with the use of debit card and credit card in India.

The study recommends that banks and financial institutions should take more efforts to popularize and increase the use of debit card and credit card also in rural areas. These cards should be made more user-friendly to senior citizens, and females. Furthermore, banks, financial institutions and policy makers from the eastern and western regions of India should take more initiative to increase the use of debit card and credit card.

Finally, the study recommend that banks and financial institutions should create more awareness about use of debit and credit cards and their benefits, increase the number

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of ATMs and reduce the annual fees charged on issuing debit and credit cards especially in remote and rural areas of the country.

Keywords: *Debit card – Credit card – Financial innovation – National sample survey – Banks*

I. Introduction

In order to achieve various Sustainable Development Goals (SDGs), the Government of India (GOI) has been taking many initiatives. To end the current poverty level in all its forms by end of the year 2030, to ease the access and use of various financial instruments and payments modes become significant as it is found that these innovations would be major and powerful tools by providing basic access to financial services and products to the most vulnerable in the society (United Nations, 2015). In order to achieve the SDG 8 – 'promote sustained, inclusive and sustainable economic growth, full and productive' – measurable targets, it is necessary that the country should support the banking and financial institutions for increasing the access to various banking, insurance and financial products and services for all (United Nations, 2015). By this, it is intended that, 15-year-old teenagers to adults should open bank accounts at any of the banks and/or financial institutions. In this process almost everyone eligible would have access to financial services to in the country. To achieve the desired target, the GOI had collected data for the recent 77th National Sample Survey (NSS) during the 'All India Debt and Investment Survey' (AIDIS) between January–December 2019.

The survey collected data from all financial institutions about account holders – 15 years old and above, holding debit and/or credit cards, and, also using it/these during the last one year (GOI, 2021).

Table 1 : Debit Card and Credit Card Access and Use during January to December 2019 in India

State	*Debit and Credit Card Access*	*Debit and Credit Card Use*
J & K	42.29	84.02
HP	43.85	87.51

Punjab	41.54	81.21
Uttarakhand	52.61	76.07
Haryana	37.67	87.18
Rajasthan	35.70	75.80
UP	**18.60**	81.81
Bihar	25.91	72.93
Assam	45.03	78.94
WB	27.68	81.30
Jharkhand	27.54	73.67
Odisha	35.82	81.78
Chhattisgarh	37.95	**56.86**
MP	22.97	76.97
Gujarat	33.80	80.74
Maharashtra	40.69	85.45
AP	45.33	77.05
Karnataka	47.32	**89.97**
Kerala	60.19	83.80
TN	**62.84**	88.41
Telangana	51.44	87.98
All India	**36.68**	**82.25**

Source: Authors' calculation based on unit-level data of NSSO 77th round of 'All India Debt and Investment Survey' January–December, 2019. Note 1: Abbreviations – J&K (Jammu and Kashmir) HP (Himachal Pradesh), MP (Madhya Pradesh), UP (Uttar Pradesh), TN (Tamil Nadu). Note 2. The values in bold show the highest and lowest. data.

Table 1 shows the debit and/or credit card access and its use during January to December 2019. Tamil Nadu (TN) is leading the states in the access of debit/credit cards; whereas Uttar Pradesh (UP) is the lowest. Around 36.68 per cent of the Indians have access, used debit and/or credit cards during the study period. The uses of debit and credit cards are significantly high, which is a positive and encouraging sign for the banking industry. With 89.97 per cent, Karnataka is the leading state and Chhattisgarh is the lowest with 56.86 per cent; whereas at all-India level, 82.25 per cent debit and credit card holders are availing the facility.

Table 2 : Region-wise Debit and Credit Card Access and Use

Region	***Debit/Credit Cards Access***	***Debit/Credit Cards Use***
Northern	40.53	82.63
North-Eastern	44.63	80.65
Eastern	28.55	78.11
Central	**22.64**	**76.25**
Western	38.52	84.04
Southern	**53.91**	**86.07**
All India	36.68	82.25

Source: Authors' calculation based on unit level data of NSSO 77th round of 'All India Debt and Investment Survey', January–December, 2019.

The region–wise data on access and use of debit and credit cards, given in table 2 shows that, the Southern region has access (53.91 per cent) and use (86.07 per cent) cards higher as compared with other regions, Central region has the lowest percentage score.

II. Review of Literature:

The banking industry has introduced many financial innovations during the last two decades. Financial innovations help banks in various ways, like the business growth, increase in the customer base. Given the banks the opportunity to scale up the products at various levels, it has even helped banks surge ahead in the competition, (Lee *et al*, 2020). Recently the Reserve Bank of India (RBI) has come up with the new regulations on issuance and directions regulating the conduct of debit card and credit card business where the regulators emphasizes on the ease and the use of these cards (RBI, 2022). The researchers have done an in-depth study on debit cards and credit cards usage in recent times. The classified directives are as follows:

(i) Innovative payment system

The electronic card payment system is a well-accepted method because of its various advantages, like time saving, convenience and user-friendly, among others. But it has disadvantages also, like the concern about cyber security, online frauds and misuse of personal information, etc. Bhatia & Jain (2013) observed that debit card and credit card

method of payment is more common than other traditional modes of payment in India. Moreover, Mann (2002) has explored the comparative study of debit card and credit card use in the United States and Japan and they found that institutional factors play significant roles in determining the use and success of credit and debit cards.

(ii) Online fraud and cyber security:

With the ever-increasing adoption and use of electronic payment systems, online frauds also have increased. The cyber-security concerns are also on the increase in recent times. It is becoming more challenging to banks as well as the customers. Al-Furiah and Al-Braheem (2009) have studied the various methods of fraud prevention in e-payment system. They argued that, with the increase in the use of electronic payments, frauds also increased. However, Hsu and Chao (2007) have explored the fraud-resistant technologies for credit card which help reduce the online fraudulent activities.

(iii) Problems and challenges in adoption

The debit card and credit card adoption was a challenging task in its early phase but now most of the banks have adopted the various methods of electronic payment systems. Kaur and Kaur (2020) have analyzed the intricacies of and determinants for adoption of debit card by the Indian banking industry from the bankers' point of view. They found that size, market share, period of use and profitability are significantly the contributing factors for its popularity, utility and continued acceptance. Furthermore, Wang, Y. (2008) has also examined the factors affecting the adoption of contactless credit cards.

(iv) Factors affecting the use of debit and credit cards:

The availability and access to debit card and credit card do not pose major problems now because it is offered to almost all bank customers with the standard conditions. However, the use of debit card and credit card depends upon many factors. Ismail *et al.* (2014) has pointed out the factors affecting the use of credit cards in the Malaysian banking system. They found that media awareness, perceptions, knowledge and family influence are the significant factors in the acquisition and usage of credit cards.

Moreover, Khare *et al.* (2012) have also explained the impact of the lifestyle variables on credit cards' use in India and found that the young generation consumers are the potential

and major users of credit cards in India. Raya and Vargas (2022) have opined that the credit-card usage is preferred to cash and identified that education, age and income levels are the motivating factors in the use of credit cards as a handy payment method. Gan et al. (2016) argued that the number of people in the family, marital status, age, the rewards schemes and credit limits imposed influence the use of the credit card.

However, there are only a few studies that have explained in detail the various personal and household attributes, socio-economic conditions, financial and regional characteristics affecting the use of debit card and credit card in the Indian context. In this paper we have tried to understand what is the status of the use of debit card and credit card. Additionally, the socio-economic background, financial and regional characteristics that influence the use of debit card and credit cards in India have been studied. The objective of this study is to explore the various factors affecting the use of debit card and credit card in India. This will give further insights and help formulate appropriate policy guidelines to banks, other financial institutions, regulators and policy makers for informed policy decisions. The current study will also contribute to the existing literature on the subject in two ways: first, it uses, for the first time, the unit-level national representative data collected by NSSO; and second, the study has included not only the socio-economic variables but also financial and regional characteristics.

The outline of the paper is as follows:

- Section III outline the research method and the data sources.
- Section IV focus on the results and discussions of the study.
- Section V discuss the factors affecting the use of debit card and credit card in India with the help of multivariate logistic regression techniques and marginal effect analyses.
- The paper concludes with a brief discussion about the results and the implications influencing researchers, policy makers bankers and executives of financial institutions.

III. Research Method and Data Sources

The data for this study is out-sourced from the 77th round of National Sample Survey

(NSS), which is also called an All-India Debt and Investment Survey (AIDIS). This is a national-level sample survey which was conducted by the Government of India from January to December 2019. The objectives of the survey were to get quantitative data on the stock of assets, status of indebtedness, capital formation (investment) and different characteristics of the urban/rural economy which will help in fostering the credit structure, specifically, and additionally to get other associated data relevant to the planning and development of the country. The survey was conducted in the two phases – first, visits between January to August 2019, considering the operational convenience – and the second visit from September to December, 2019. In the first stage of the survey, 5,940 villages in the rural areas and 3,995 blocks in the urban areas were surveyed. And in the second stage, 69,455 rural and 47,006 urban households were visited. Thus, the combined total of the two-stage Indian households visited were: Rural = 68,291, and urban = 44,781.

The NSSO survey, the first of its kind, asked: "Are the adult members in the family availing the facility of debit and credit cards", and "Have the debit and/or credit cards have been used during the 365 days of the year".. In the current study, we have taken latter question – "Whether the debit and/or credit card have been used during the 365 days of the year' as the dependent variable, which is binary in nature. It takes value 1 if the person is holding debit and credit card, and 0, if it is otherwise.

Out of total 4,95,573 persons contacted in this survey, 1,41,531 (40.85%) holding debit or credit card, and, 204,945 (59.15%) not holding debit/credit cards (Total 346,476 persons) are above the age of 18 years). However, 1,18,350 (73.62%) individuals are using debit/ credit card and 23,181 (16.38%) are not using debit/credit card. The details of the dependent and independent variables are given in Table 1.

Table 1 : Description of Independent Variables Used in Logistic Regression

Variables	*Descriptions*
1. Dependent Variable	
Debit and credit card use	Debit and credit card use is considered as the binary dependent variable in this study.
2. Independent Variable	
Personal and household attributes	

Place of residence	Place of residence is divided into rural and urban. Rural is =1 and urban is = 2. We have taken rural as a reference category.
Education	Education is divided into four categories: illiterate, primary, secondary and higher. We have taken illiterate as a reference category.
Age	Age of household members is divided into three categories: (i) 18 to 39 years - young adult,(ii) 40 to 59 years - middle age adult, (iii) 60 years and above - old adult. We have taken young adult as a reference category.
Principal source of income	The source generating maximum income is considered as the principal source and divided into three categories: (a) self-employed, (b) regular wage/salaried and (c) casual labour. We have taken self-employed as a reference category.
3. Socio-economic Variables	
	The data provide information on the sex of the individuals: male
Gender	and female. For our study, we have taken male as a reference category.
Social group	Social group category of the household is divided into Scheduled Tribe (ST), Scheduled cast (SC), Other backward class (OBC), and others. ST category is considered as reference category in this study.
Religion	Religion is divided into four categories, Hindu, Muslim, Christian and Others. Hindu is considered as reference category.
4. Financial Characteristics	
Value of financial assets	Value of financial assets including deposits in banks, pension fund, life insurance, other financial savings and receivable are taken in this study. We have taken per person value of financial assets and that has been categorized into five quintiles based on the value of financial assets of the household. The 1st quintile is considered as reference category.
Investments in shares and related instruments	If invested in share and related instruments=1, otherwise=2. We have taken if Invested in share and related instruments=1 as a reference category.
Wealth quintile	We have categorized five wealth quintiles based on the monthly per capita consumption expenditure (MPCE) into Poorest, Poor, Medium, Rich, and Richest. The poorest is considered as the reference category.
5. Regional Characteristics	
Regions	All-India data is divided into six regions: northern, north-eastern , central, eastern, western, and southern. The northern region is considered as reference category.

Model:

Logistic regression equation can be expressed as:

$$logity=Inp1-p=\alpha+\beta x \quad (1)$$

Where,

Y = dependent variable (debit and credit cards used or not)

β = regression coefficient

x = independent variable

p = probability of debit and credit cards use by individual

1-p = probability of debit and credit cards not used by individual

$$P=11+e-\alpha+\beta x \quad (2)$$

Where,

P is the probability of the outcome of interest or 'event', that is the individual has used debit and credit cards;

α is the y intercept;

β is the regression coefficient.

Logit (Debit and Credit Card used) = α+ β1 education + β2 age + β3 sector + β4 principal source of income + β5 gender + β6 social group + β7 religion + β8 value of financial assets including receivables + β9 investments in share and related instruments + β10 usual monthly consumer expenditure + β11 region + εi (3)

Where,

α is constant,

β's are coefficients of explanatory variables, and

ε is the error term.

The individual member is the unit of analysis. The odds ratio has been used for interpreting the results of the logistic regression in the data analysis (Abedin T. et. al. 2016).

The study has used STATA 16.0 package for the complete analysis.

IV. Results and Discussion

The use of credit and debit cards is increasing in leaps and bounds with the increase in income, urbanization, banking facility, education and spread of information and communication technology (ICT) in the country, especially during the last decade.

Table 2 shows the sample distribution and debit and credit cards' usage in India during period of the survey year (i. e. January-December, 2019). The use of debit and credit cards was the highest (86.07) in the Southern region, whereas the Eastern region is at the lowest (76.25 per cent). The individuals who live in urban areas are using cards more than their rural counterparts. Education is also influencing the card usage in India. Young adults use cards more than older persons whereas self-employed and the salaried use cards more than casual laborers.

With respect to gender, males tend to dominate the use of cards, and also the marginalized social groups use them. There is a positive correlation between value of assets, which aspect is reflected in the wealth quintiles data. The richest class use cards more extensively than the poorest class. Interestingly, individuals who are investing in shares and related instruments are not using more debit/ credit cards in the country.

Table 2: Sample Distribution, Percentages of Selected Variables of Debit and Credit Cards Usage in India, January-December 2019

Particulars	*Sample Distribution*		*Percentage of debit/credit cards usage*						
	%	*n*	*North*	*N-east*	*Central*	*Eastern*	*Western*	*Southern*	*India*
Debit and									
credit card used/ unused									
Used	83.62	118350	82.63	80.63	78.11	76.25	84.04	86.07	82.25
Not used	16.38	23181	17.37	19.35	21.89	23.75	15.96	13.93	17.75
Residence									
Rural	77.93	50770	76.33	77.66	73.70	68.57	77.55	82.82	76.81
Urban	88.48	67580	88.75	90.77	86.56	86.65	88.53	89.18	88.37
Education									

Illiterate	6.26	7412	7.45	6.82	7.49	6.47	4.02	8.96	7.27
Primary	24.65	29174	23.17	39.77	31.69	25.50	22.32	25.06	26.07
Secondary	36.75	43484	36.94	36.23	34.50	32.93	39.26	36.74	36.29
Higher	32.34	38280	32.44	17.18	26.33	35.10	34.40	29.24	30.36
Age									
18 to 39 (Young adult)	58.66	69420	61.49	59.18	62.39	63.28	61.63	58.94	60.90
40 to 59 (middle aged)	33.08	39155	29.69	34.33	30.35	29.10	31.22	32.05	31.00
60 and above (senior citizens)	8.26	9775	8.82	6.49	7.25	7.62	7.15	9.01	8.11
Principal income source									
Self-employed	44.79	53012	44.06	50.49	47.96	51.04	41.01	31.44	40.97
Regular wage/ salaried	34.41	40729	37.66	24.42	25.30	27.49	42.55	33.28	33.03
Casual labour	20.79	24609	18.28	25.09	26.74	21.47	16.45	35.28	26.01
Gender									
Male	67.48	79863	70.72	63.04	71.96	76.01	72.74	60.55	68.04
Female	32.52	38487	29.28	36.96	28.04	23.99	27.26	39.45	31.96
Social group									
ST	12.74	15074	4.06	31.79	6.63	6.21	6.92	2.99	6.06
SC	12.47	14760	17.79	10.75	16.78	14.73	9.07	16.83	15.15
OBC	38.81	45926	29.24	25.53	33.09	44.65	33.56	60.78	43.54
Others	35.99	42590	48.91	31.94	43.50	34.41	50.45	19.40	35.24
Religion									
Hindu	76.61	90671	78.08	59.11	85.73	88.61	86.46	82.01	82.60

Muslim	10.18	12052	8.63	17.12	12.10	9.04	7.41	10.67	10.12
Christian	8.43	9972	0.57	19.60	1.32	0.42	1.24	7.05	3.89
Others	4.78	5655	12.72	4.17	0.84	1.93	4.89	0.27	3.39
Financial asset value									
1st quintile	9.97	11804	11.12	8.11	16.44	11.85	9.94	11.36	11.81
2nd quintile	12.80	15150	12.43	15.08	17.32	15.49	8.78	16.16	14.44
3rd quintile	18.48	21866	19.11	29.85	22.08	20.92	16.01	20.61	20.31
4th quintile	24.64	29160	25.45	25.42	20.75	25.43	25.85	21.74	23.48
5th quintile	34.11	40370	31.89	21.53	23.41	26.30	39.41	30.13	29.96
Wealth quintile									
Poorest	12.24	14487	6.25	20.47	30.61	19.25	9.54	13.81	15.62
Poor	14.91	17641	11.02	26.22	25.18	19.36	12.79	19.45	18.27
Medium	18.69	22123	17.20	21.55	18.05	19.66	18.84	21.98	19.65
Rich	23.14	27391	24.08	18.54	13.18	22.52	22.27	23.90	21.57
Richest	31.02	36708	41.45	13.23	13.98	19.20	36.56	20.86	24.89
Shares and related instruments									
Yes	2.14	2536	1.39	0.22	0.70	1.70	5.28	2.60	2.33
No	97.86	115814	98.61	99.78	99.30	98.30	94.72	97.40	97.67

Source : Authors' calculation based on unit-level data of NSSO 77th round on 'All India Debt and Investment Survey' January–December 2019.

The value of financial assets shown in the table above indicates that there is no major difference between a card-user and non-user up to 4th quintile; whereas the highest quintile (5th) value of financial assets is showing more differences between card users and non-users. This shows that the high value of assets only makes the difference in the use of cards. Furthermore, the usual monthly consumer expenditure is showing a clear difference between card-users and non-users. This also indicates that, cards users'

expenditure is more than non-users, and, they are doing more transactions than their counterparts (see Table 3).

Table 3 : Average per Capita Value of Financial Assets and Monthly Expenditure of Debit / Credit card Users in India, January– December 2019 *(in Rs)*

Quintile	*Value of Financial assets*		*Usual Monthly Expenditure*	
	User	**Non-User**	**User**	**Non-User**
1st	236.26	252.28	2104.53	1741.97
2nd	991.58	967.84	2343.45	2052.107
3rd	2852.67	2843.93	2768.25	2522.427
4th	12962.40	12465.31	3420.13	3080.589
5th	222029.30	167735.60	5435.96	4530.708

Source : Authors' calculation based on unit-level data of NSSO 77th round on 'All India Debt and Investment Survey' January–December, 2019.

V. Factors Affecting the Use of Debit Card and Credit Card in India

The debit and credit card usage is dependent on various factors. Table 4 shows the results of logistic regression of the determinants of use of debit and credit cards in India during 2019. The model has been checked for multicollinearity, and, the Variance Inflation Factors (VIFs) have been found to be less than 5. The urban individuals are inclined to make use of the cards more than the rural folk; however, it is probable that the card-usage increases with individual's level of education. The use of cards by a person with higher education level is 4.47 per cent higher than an individual who is less educated or even illiterate. However, the age of the person is negatively related to the use of cards as elderly people are less likely to use debit and credit cards.

Table 4 : Results of Logistic Regression Indicating the Odds of the Determinants of Use of Debit and Credit Cards in India

Insured/ Uninsured (Dependent variable)	*Odds Ratio*	*Robust Standard Error*
Constant	1.32* (1.21 – 1.44)	0.06
Resident		

Rural[a]	1.00	
Urban	1.54* (1.48 – 1.59)	0.03
Education		
Illiterate[a]	1.00	
Primary	1.45* (1.39 – 1.52)	0.04
Secondary	2.37* (2.26 – 2.50)	0.06
Higher	4.47* (4.21 – 4.75)	0.14
Age		
18 to 39 years (Young adult)[a]	1.00	
40 to 59 years (Middle-age adult)	0.79* (0.76 – 0.81)	0.01
60 years and above (Senior citizen)	0.49* (0.46 – 0.51)	0.01
Principal source of income		
Self-employed[a]	1.00	
Regular wage/ salaried	1.34* (1.29 – 1.40)	0.03
Casual labour	1.06* (1.02 – 1.11)	0.02
Gender		
Male[a]	1.00	
Female	0.40 (0.39 – 0.42)	0.01
Social group		
ST[a]	1.00	
SC	1.25* (1.18 – 1.33)	0.04
OBC	1.20* (1.14 – 1.26)	0.03
Others	1.27* (1.00 – 1.017)	0.04

Religion		
Hindu[a]	1.00	
Muslim	1.06** (1.01 – 1.12)	0.03
Christian	1.18* (1.10 – 1.27)	0.05
Others	1.08** (1.00 – 1.17)	0.04
Value of financial assets		
1st quintile[a]	1.00	
2nd quintile	1.22* (1.15 – 1.28)	0.03
3rd quintile	1.33* (1.26 – 1.40)	0.03
4th quintile	1.41* (1.35 – 1.49)	0.04
5th quintile	1.61* (1.53 – 1.70)	0.04
Wealth quintile		
Poorest[a]	1.00	
Poor	1.09* (1.04 – 1.14)	0.03
Medium	1.18* (1.13 – 1.24)	0.03
Rich	1.28* (1.22 – 1.35)	0.03
Richest	1.51* (1.43 – 1.60)	0.04
Investments in shares and related instruments		
Yes[a]	1.00	
No	1.13*** (1.00 – 1.27)	0.07
Region		
North[a]	1.00	
North-east	1.48* (1.72 – 1.97)	0.06

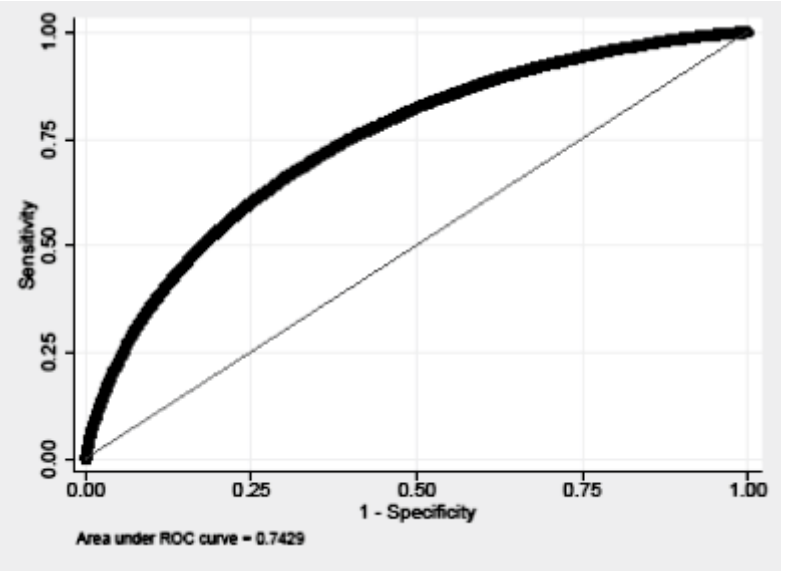
Central	1.06** (1.01 – 1.12)	0.03
Eastern	0.77* (0.73 – 0.81)	0.02
Western	0.92* (0.87 – 0.97)	0.03
Southern	1.63* (1.21 – 1.44)	0.06
Other Statistics		
Total number of observations	141531	
Wald chi^2 (29)	13006.44	
Prob > chi^2	0.000	
Pseudo R^2	0.12	
Correctly classified	83.99 per cent	
Area under ROC curve	0.74	

a - reference category

*Source : Authors' calculation, based on unit-level data of NSSO 77th round, on 'All India Debt and Investment Survey' Jan- Dec 2019. Significance level: *P<0.01,**P<0.05,***P<0.10.*

Regular wage earners and salaried persons are more inclined to use cards than unemployed and casual labours and females are less likely to use cards in India. Interestingly, social groups and one's religion do not affect the use of cards; however, 5th quintile in value of financial assets are 1.61 per cent more than probability of 1st quintile users of cards.

Wealth quintile is showing upward trends in the use of debit and credit cards in India. The richest wealth quintile probability indicates 1.51 per cent more in using cards than the poorest quintile. This projects the positive relationship between wealth and use of debit and credit cards. The individuals from Southern region are more likely to use debit and credit cards than all other regions in the country. The p values for all the variables are significant at 0.01 levels except investment in shares and related instruments, and also Muslims and other religions variables.



The overall model is correctly classified by 84 per cent and area under ROC curve is 0.74. The model probability of chi^2 is 0.000 and Pseudo R^2 is 0.12.

Table 5 : Marginal Effect of Various Independent Variables on the Use of Debit and Credit cards in India, Jan-Dec. 2019

Variables	*Marginal Effect*	*Robust Standard Error*	*P - value*
Place of residence (reference category: Rural)			
Urban	0.052*	0.002	0.000
Education (reference category: Illiterate)			
Primary	0.063*	0.004	0.000
Secondary	0.130*	0.004	0.000
Higher	0.190*	0.004	0.000
Age (reference category: 18 to 39 (Young adult)			
40 to 59 years (Middle-age adult)	-0.029*	0.002	0.000
60 years and above (Senior citizen)	-0.097*	0.004	0.000
Principal source of income (reference category: Self-employed)			

Regular wage/ salaried	0.035*	0.002	0.000
Casual labour	0.008*	0.004	0.002
Gender (reference category: Male)			
Female	-0.118*	0.002	0.000
Social group (reference category: ST)			
SC	0.028*	0.004	0.000
OBC	0.023*	0.004	0.000
Others	0.030*	0.004	0.000
Religion (reference category: Hindu)			
Muslim	0.007**	0.003	0.024
Christian	0.019*	0.004	0.000
Others	0.009**	0.005	0.043
Value of financial assets (reference category: 1st quintile)			
2nd quintile	0.027*	0.004	0.000
3rd quintile	0.037*	0.004	0.000
4th quintile	0.045	0.003	0.000
5th quintile	0.060	0.003	0.000
Wealth quintile (reference category: 1st quintile)			
2nd quintile	0.011*	0.003	0.001
3rd quintile	0.022*	0.003	0.000
4th quintile	0.032*	0.003	0.000
5th quintile	0.050*	0.003	0.000
Investments in shares and related instruments (reference category: yes)			
No	0.014***	0.007	0.051
Region (reference category: North)			
Northeast	0.069*	0.004	0.000

Central	0.008**	0.004	0.031
Eastern	-0.037*	0.004	0.000
Western	-0.017*	0.004	0.002
Southern	0.057*	0.003	0.000

*Source: Authors' calculation based on unit level data of NSSO 77th round on 'All India Debt and Investment Survey' Jan.- Dec. 2019. Significance level: *P<0.01, **P<0.05, ***P<0.10.*

We have also calculated the marginal effect to understand each of the variables' effects on the dependent variable (Table 5). Factors like urban place of habitation, education level, principal sources of income, social group, value of financial assets, and wealth quintile are positive, whereas middle-age adults, senior citizens, females, eastern and western regions are negatively associated with the use of debit card and credit card in India.

VI. Conclusion

The use of debit card and credit card depends on various factors. There is regional disparities in the use of debit card and credit card in India. The southern region is a forerunner and central region is backward in accessing as well as using debit card and credit card facilities.

The study found that education level, urban residence, regular wage earners and salaried individuals, i.e., people with regular sources of income. whose value of financial assets and wealth quintile are positively associated, and senior citizens and females are negatively associated with the use of debit card and credit card in India.

The study suggests that, banks and financial institutions should take more initiatives and make greater efforts to increase the use of debit card and credit card in the vast areas of rural India. Card acquisition and usage should be made more customer friendly, especially for senior citizens and females in the country. The banks, financial institutions and policy makers from eastern and western regions should take more initiative to increase the use of debit card and credit card.

Furthermore, the study recommends that banks and financial institutions should install more ATMs to increase the use of debit card, create greater awareness about the usage and benefits of debit and credit cards especially in remote and rural area of the

country. The study also recommends that, banks should decrease the annual fees on issue of debit and credit cards which will increase the number of card users, make it more popular and user friendly,

Declaration on Conflict Interest

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